

U.S. Serial No.: 09/844,216

Amendment To The Claims:

1-24 Canceled.

25. (Previously presented) A system for hierarchically storing packetized data and transferring the packetized data, the apparatus comprising:

an input configured to receive packets of data;

an output coupled to a memory and configured to transfer packets of data from the memory; and

control means coupled to the input and to the output for storing packets of data received by the input in queues associated with a hierarchy where each level of the hierarchy includes at least one group of queue group components, and where at least one of the queue group components in each level other than a lowest level of the hierarchy includes a group of queue group components associated with a logically-lower level of the hierarchy, each queue group component being associated with at least one of a logically-lower queue and a logically-lower queue group, the control means also for transferring stored packets of data to the output,

wherein the control means is also for determining effective lengths of the queue group components.

26. (Original) The system of claim 25 wherein the logically-lower level is immediately logically lower in the hierarchy.

27. Canceled.

U.S. Serial No.: 09/844,216

28. (Previously presented) The system of claim 25 wherein the control means is configured to determine the effective lengths based on at least one of queue size, type of source, size of source, and service requirements associated with a queue.

29. (Original) The system of claim 28 wherein values of the effective length vary directly with queue size.

30. (Original) The system of claim 29 wherein the control means is also for discarding at least one packet of data of a selected queue associated with a queue group component that has a longest effective length among a hierarchical group under consideration for discard.

31. (Original) The system of claim 30 wherein the hierarchical group under consideration is associated with a queue group component at a higher level in the hierarchy that has the longest effective length of its associated group.

32. (Original) The system of claim 31 wherein the control means is for discarding multiple packets of data from the selected queue regardless of whether the queue group component associated with the selected queue ceases to have the longest effective length in its group before all of the multiple packets of data are discarded.

U.S. Serial No.: 09/844,216

33. (Previously presented) The system of claim 25 wherein the control means is configured to determine the effective lengths for at least two different hierarchical components differently.

34. (Previously presented) The system of claim 25 wherein the control means is configured to discard at least one packet of data of a queue associated with a queue group component having an effective length that is within a highest-length range of effective lengths associated with a hierarchical group under consideration for discard.

Claims 35-41 Canceled.

42. (Currently amended) A method for hierarchically storing packetized data and transferring the packetized data, the method comprising:

- receiving packets of data at an input;
- storing the received packets of data in queues according to a hierarchy where each level of the hierarchy includes at least one group of queue group components, and where at least one of the queue group components in each level other than a lowest level of the hierarchy includes a group of queue group components associated with a logically-lower level of the hierarchy each queue group component being associated with at least one of a logically-lower queue and a logically-lower queue group;
- determining effective lengths of the queue group components; and

U.S. Serial No.: 09/844,216

discarding at least one packet of data of a selected queue associated with a queue group component that has a longest effective length among a hierarchy group under consideration for discard.

43. (Original) The method of claim 42 wherein the lower level is immediately logically lower in the hierarchy.

44. Canceled.

45. (Previously presented) The method of claim 42 wherein determining the effective lengths is based on at least one of queue size, type of source, size of source, and service requirements associated with a queue.

46. (Original) The method of claim 45 wherein values of the effective length vary directly with queue size.

47. Canceled.

48. (Previously presented) The method of claim 42 wherein the hierarchy group of queues under consideration is associated with a queue group component at a higher level in the hierarchy that has the longest effective length of its associated group.

U.S. Serial No.: 09/844,216

49. (Original) The method of claim 48 wherein the discarding of at least one packet includes discarding multiple packets of data from the selected queue regardless of whether the queue group component associated with the selected queue ceases to have the longest effective length in its group before all of the multiple packets of data are discarded.

50. (Previously presented) The method of claim 42 wherein determining the effective lengths for at least two different hierarchy components is determined differently.

51. (Previously presented) The method of claim 42 further comprising discarding at least one packet of data of a queue associated with a queue group component having an effective length that is within a highest-length range of effective lengths associated with a hierarchy group under consideration for discard.